

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

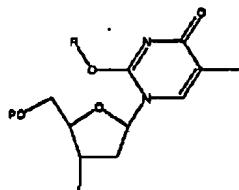
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/735,084	12/15/2003	Joseph C. Walsh	2003P88073US
		EXAMINER	
		Krlehn, Ganapathy	
		ART UNIT	PAGE NUMBER
		1623	2

Response To OFFICIAL ACTION

AMENDMENTS TO THE CLAIMS

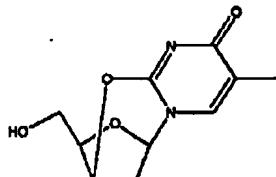
In the Claims, please make the following amendments:

1. (Original) A method for preparing a compound having the following formula:

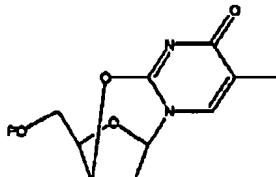


wherein R is an alkoxy blocking group; P is a hydroxyl protecting group; and L is a leaving group, the method comprising the steps of:

- a. reacting a compound of the formula:

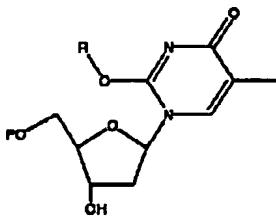


with a hydroxyl protecting group to produce a compound having the following formula:



wherein P is the same as defined above;

- b. enolating the reaction product of step (a) produce a compound having the following formula:



wherein P and R are the same as defined above; and

05-31-06;01:40PM;

MAY 31 2006 ;1-732-321-3030

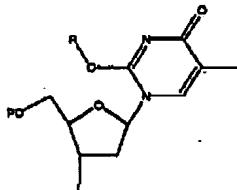
5 / 12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/736,084	12/15/2003	Joseph C. Walsh	2003P80073US
EXAMINER Krishnan, Ganapathy			
ART UNIT	PAGE NUMBER		
1623	3		

Response To OFFICIAL ACTION

- c. incorporating a leaving group to produce a compound having the following formula:



2. (Original) The method according to Claim 1, wherein P is selected from the group consisting of methoxymethyl ether, methylthiomethyl ether, 2-methoxyethoxymethyl ether, 1-ethoxyethyl ether, 1-methyl-1-methoxyethyl ether, t-butyl ether, allyl ether, benzyl ether, 4-nitrobenzyl ether, o-nitrobenzyl ether, trityl ether, monomethoxytrityl ether, dimethoxytrityl ether, tritylone ether, tetrahydropyran ether, tetrahydrothiopyranyl ether, 4-methoxy tetrahydropyran ether, 4-methoxytetrahydrothiopyranyl ether, tetrahydrofuran ether, tetrahydrotrifuranyl ether, isobutyrate ester, pivaloate ester, adamantoate ester, benzoate ester, 2,4,6,-trimethylbenzoate ester, methyl carbonate, allyl carbonate, benzyl carbonate, p-nitrobenzyl carbonate, t-Bu carbonate, S-benzylthio carbonate, N-phenyl carbamate, and nitrate ester.
3. (Original) The method according to Claim 1, wherein P is selected from the group consisting of dimethoxytrityl, monomethoxytrityl, trityl, t-butoxycarbonyl, t-butyldimethylsilyl, t-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, and 1-methyl-1-methoxyethyl ether.
4. (Original) The method according to Claim 1, wherein R is alkyl C₁-C₄, i-propyl, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate.
5. (Original) The method according to Claim 1, wherein R is methyl, ethyl, i-propyl, benzyl, or cycloalkane C₃-C₆.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/736,084	12/15/2003	Joseph C. Walsh	2003P88073US
		EXAMINER	
		Krishnan, Ganapathy	
ART UNIT	PAGE NUMBER		
1623	4		

Response To OFFICIAL ACTION

6. (Original) The method according to Claim 1, wherein step (b) includes treating the reaction product of step (a) with an alkoxide having 1 to 4 carbons, cycloalkoxide C₃-C₆, phenoxide, tosylate, acetate, or benzoate.
7. (Original) The method according to Claim 6, wherein the alkoxide is sodium methoxide.
8. (Original) The method according to Claim 1, wherein L is a sulfonate ester.
9. (Original) The method according to Claim 1, wherein L is selected from the group consisting of mesylate, nosylate, tosylate, and triflate.
10. (Original) A method for preparing a precursor for the preparation of a radiolabeled nucleoside comprising:
 - a. converting a 2-deoxy nucleoside into a 2,3'-anhydronucleoside;
 - b. reacting the 2,3'-anhydronucleoside with a hydroxyl protecting group to produce a 2,3'-anhydronucleoside derivative wherein the 5'-O group is protected;
 - c. reacting the protected 2,3'-anhydronucleoside derivative with a reagent that opens the 2,3'-anhydro-ring and enolates the 2-position on the pyrimidine ring; and
 - d. incorporating a leaving group to produce the radiolabeled nucleoside precursor.
11. (Original) The method according to Claim 10, wherein the nucleoside is thymidine, cytidine, or uridine.
12. (Original) A method for preparing a precursor for the preparation of ¹⁸F-FLT comprising:
 - a. converting thymidine into 2,3'-anhydrothymidine;

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/736,084	12/15/2003	Joseph C. Walsh	2003P88073US
		EXAMINER	
		Krishnan, Ganapathy	
ART UNIT	PAGE NUMBER		
1623	5		

Response To OFFICIAL ACTION

b. reacting the 2,3'-anhydro thymidine with a hydroxyl protecting group to produce a 2,3'-anhydrothymidine derivative wherein the 5'-O group is protected;

c. reacting the protected 2,3'-anhydrothymidine derivative with a reagent that opens the 2,3'-anhydro-ring and enolates the 2-position on the pyrimidine ring; and

d. incorporating a leaving group to produce the ¹⁸F-FLT precursor.

13. (Original) The method according to Claim 12, wherein step (c) produces an enol having an -O-R group attached to the 2-carbon.

14. (Original) A method according to Claim 13, wherein R is alkyl C₁-C₄, *t*-propyl, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate.

15. (Original) A method according to Claim 12, wherein step (c) includes treating the reaction product of step (b) with an alkoxide.

16. (Currently amended) A method according to Claim 15¹⁶, wherein the alkoxide is selected from the group consisting of sodium methoxide, and sodium ethoxide, .

17. (Original) A method according to Claim 12, wherein the hydroxyl protecting group is dimethoxytrityl, monomethoxytrityl, trityl, *t*-butyloxycarbonyl, *t*-butyldimethylsilyl, *t*-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, or 1-methyl-1-methoxyethyl ether.

18. (Original) A method according to Claim 12, wherein the hydroxyl protecting group is dimethoxytrityl, monomethoxytrityl, or trityl.

19. (Original) A method according to Claim 12 wherein the leaving group is a sulfonate ester:

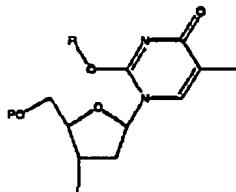
20. (Original) A method according to Claim 19, wherein the leaving group is mesylate, tosylate, nosylate, or triflate.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/736,084	12/15/2003	Joseph C. Walsh	2003P86073US
		EXAMINER	
		Krishnan, Ganapathy	
ART UNIT	PAGE NUMBER		
1623	6		

Response To OFFICIAL ACTION

21. (Original) A compound having the following formula:



wherein R is alkyl C₁-C₄, *t*-propyl, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate; P is a hydroxyl protecting group; and L is a leaving group.

22. (Original) A compound according to Claim 21, wherein R is methyl or ethyl.

23. (Original) A compound according to Claim 21, wherein P is methoxymethyl ether, methylthiomethyl ether, 2-methoxyethoxymethyl ether, 1-ethoxyethyl ether, 1-methyl-1-methoxyethyl ether, *t*-butyl ether, allyl ether, benzyl ether, 4-nitrobenzyl ether, o-nitrobenzyl ether, trityl ether, monomethoxytrityl ether, dimethoxytrityl ether, tritylone ether, tetrahydropyran ether, tetrahydrothiopyranyl ether, 4-methoxy tetrahydropyran ether, 4-methoxytetrahydrothiopyranyl ether, tetrahydrofuran ether, tetrahydrotrifuranyl ether, isobutyrate ester, pivaloate ester, adamantoate ester, benzoate ester, 2,4,6,-trimethylbenzoate ester; methyl carbonate, allyl carbonate, benzyl carbonate, p-nitrobenzyl carbonate, *t*-Bu carbonate, S-benzylthio carbonate, N-phenyl carbamate, or nitrate ester.

24. (Original) A compound according to Claim 21, wherein P is dimethoxytrityl, monomethoxytrityl, trityl, *t*-butyloxycarbonyl, *t*-butyldimethylsilyl, *t*-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, or 1-methyl-1-methoxyethyl ether.

25. (Original) A compound according to Claim 21, wherein P is dimethoxytrityl.

26. (Original) A compound according to Claim 21, wherein L is a sulfonate ester.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

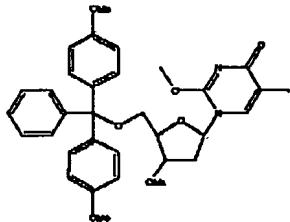
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10736,084	12/15/2003	Joseph C. Walsh	2003P8807SUS
		EXAMINER	
		Krishnen, Ganapathy	
ART UNIT	PAGE NUMBER		
	1623	7	

Response To OFFICIAL ACTION

27. (Original) A compound according to Claim 21, wherein L is selected from the group consisting of p-(2,4-dinitroanilino)benzenesulfonyl, benzenesulfonyl, methylsulfonyl (mesylate), p-methylbenzenesulfonyl (tosylate), 4-nitrobenzene sulfonyl (nosylate), p-bromobenzenesulfonyl, trifluoromethylsulfonyl (triflate), trichloroacetimidate, acyloxy, 2,2,2-trifluoroethanesulfonyl, imidazolesulfonyl, and 2,4,6-trichlorophenyl.

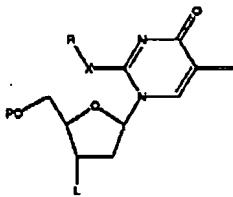
28. (Original) A compound according to Claim 21, wherein R is methyl, P is dimethoxy trityl, and L is mesylate, tosylate, or nosylate.

29. (Original) A compound having the following formula:



wherein Ms is methylsulfonyl.

30. (Original) A compound having the following formula:



wherein R is alkyl C₁-C₄, i-propyl, benzyl, cycloalkane C₃-C₆, phenyl, tosyl, acetate, or benzoate; P is a hydroxyl protecting group; X is oxygen, sulfur, or nitrogen, and L is a leaving group.

31. (Original) A compound according to Claim 30, wherein L is halogen, p-(2,4-dinitroanilino)benzenesulfonyl, benzenesulfonyl, methylsulfonyl (mesylate), p-methylbenzenesulfonyl (tosylate), 4-nitrobenzene sulfonyl (nosylate), p-

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
10/738,084	12/15/2003	Joseph C. Welsh	2003P88073US
		EXAMINER	
		Krishnan, Ganapathy	
ART UNIT	PAGE NUMBER		
1623	8		

Response To OFFICIAL ACTION

bromobenzenesulfonyl, trifluoromethylsulfonyl (triflate), trichloroacetimidate, acyloxy, 2,2,2-trifluoroethanesulfonyl, imidazolesulfonyl, or 2,4,6-trichlorophenyl.

32. (Original) A compound according to Claim 30, wherein P is dimethoxytrityl, monomethoxytrityl, trityl, t-butyloxycarbonyl, t-butyldimethylsilyl, t-butyldiphenylsilyl, tetrahydropyranyl ether, tetrahydrofuranyl ether, ethoxyethyl ether, or 1-methyl-1-methoxyethyl ether.

33-34. (Canceled)